

CYCLONE DITCH
Lower Rapid Valley Irrigation Ditches
On the South Side of Rapid Creek
Rapid City Vicinity
Pennington County
South Dakota

HAER No. SD-7

HAER

SD

52-RAC1.V,

1-

PHOTOGRAPHS
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
Rocky Mountain Regional Office
National Park Service
P.O. Box 25287
Denver, Colorado 80225-0287

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I. INTRODUCTION

Location: The Cyclone Ditch is located on the south side of Rapid Creek in Pennington County, South Dakota, in the vicinity of Rapid City

Quad: Rapid City East and Box Elder

UTM: Zone 13
Diversión: 646160 E, 4879480 N
Terminus: 651520 E, 4874650 N

Date of Construction: c. 1890

Present Owner: Cyclone Ditch Company
c/o Lee Ahrlin
2929 Fifth Street, Suite 150
Rapid City, South Dakota 57701

Present Use: Irrigation

Significance: The Cyclone Ditch is significant for its association with the development of irrigated agriculture in South Dakota. The ditch is a representative example of irrigation systems constructed, maintained, and operated by farmers.

Historian: Lon Johnson
Renewable Technologies, Inc.
Butte, Montana 59701
February 1994

II. HISTORY

The Cyclone Ditch is located in the Lower Rapid Valley, just east of Rapid City, South Dakota. (See map on page 3.) The ditch diverts water from Rapid Creek, a major tributary of the Cheyenne River, which flows through the valley. The valley is about 40 miles long, and from one to two miles wide. By 1878, farmers occupied the valley floor from Rapid City east for a distance of ten miles. These farmers, individually and in groups, began digging irrigation ditches from Rapid Creek to bring water to their crops. Over the next decade, most of the ditches became part of farmer-owned ditch corporations. The stockholders of these corporations worked together to expand, operate, and maintain the ditches. Of the 12 or so ditch companies that have operated in the Lower Rapid Valley, seven continue to provide water to about 9,000 acres. (See HAER No. SD-5 for a historical narrative of the Lower Rapid Valley irrigation ditches.) The Cyclone Ditch Company operates one of the last ditches built in the valley.

The Cyclone Ditch Company was incorporated in 1890. Joseph Jolly, John W. Bogart, and John L. Burke were the original incorporators. The corporation had the authority to issue 1500 shares of stock valued at \$10 each.¹ The company acquired the water rights of Joseph Jolly and John W. Nowlin who filed for 3000 miners' inches in 1887 and 5000 miners inches in 1890.²

The Cyclone Ditch Company failed to file for an extension of its existence in 1910, and was dissolved. The company was reorganized in 1911.³ In 1931, the corporation listed assets of \$10,109.20 of which \$10,000.00 was assigned to the existing ditch and water rights.⁴

The by-laws of the corporation provided for the water to be divided in proportion to the number of shares of stock owned. Each shareholder was responsible for constructing boxes or weirs to restrict the amount of water passing onto their land. The by-laws also required that before any water could be appropriated from the ditch "all water shall first pass through entire length of ditch...for the purpose of thoroughly soaking the ground in said ditch."⁵

The early minute books of the Cyclone Ditch Company have been lost or destroyed. Records are available only from 1933.



The first available records of the Cyclone Ditch Company are concerned with an adequate supply of water to the ditch. In a special meeting called in 1934, it was "intimated that water companies holding prior rights...would call on water companies with junior rights to close down their ditches."⁶ One month later, the directors voted to retain an attorney to investigate its rights and general water usage in the Rapid Valley. They appear to have been particularly concerned with water being used in extensions of existing ditches and the reopening of previously abandoned ditches, specifically mentioning the Little Giant.⁷

The response to the Cyclone Ditch Company from its attorneys opened by saying "[a]pparently the ditch companies down Rapid Valley are having their annual squabble." In addressing the board's queries, the attorneys recommended that the company serve notice on all senior companies to shut down their extensions with junior water rights to the Cyclone appropriation. They also informed the directors that any ditch not used for three years abandoned its water rights.⁸

The Cyclone Ditch Company was not the only water user seeking legal assistance to protect its rights. Before the month was over, the Lone Tree Ditch Company served an order on the Cyclone Ditch Company to shut down its ditch. The corporate minutes vaguely refer to the order "citing a certain injunction...granted a great many years ago." Contempt of court charges were brought against the president and the secretary of the corporation for violating the injunction. At an "informal meeting" where the board voted to instruct their attorney to protect their rights, the ditch superintendent resigned complaining that the company was not acting on the advice of its attorney.⁹

The water rights situation had become so critical by 1935 that the board voted to retain an attorney to litigate adjudication of water rights.¹⁰ The results of that action are unknown.

In 1937, the Bureau of Reclamation found that 1,100 irrigable acres could be served by the Cyclone Ditch, although water shortages limited actual acres irrigated to about one-half that number.¹¹ In 1989, the Cyclone Ditch provided water to 722 acres.¹²

III. PHYSICAL DESCRIPTION

The Cyclone Ditch diverts water from the south side of Rapid Creek, just to the west of Valley Drive in the southeast quarter of Section 8, T1N, R8E. Wood piles and timbers (inundated at the time of the survey) across Rapid Creek divert water into an intake canal.

The headgate structure was constructed in 1956. It consists of a concrete masonry unit (CMU) wall placed across the canal. The wall measures 11'-3" in length. The CMU measure 16" x 12" x 8." The central 3'-4" section of the wall is stepped up one block high. A canal gate is mounted against the central portion of the structure. It consists of a round gate in a welded angle iron frame. The gate is raised and lowered in the frame by a threaded stem and 30-inch cast iron handwheel. Cast in the wheel is the maker's mark: SHERIDAN IRON WORKS, SHERIDAN, WYO, S524.

Fill placed behind the headgate structure creates a roadway about 16 feet wide. The water passing beneath the roadway is carried in a 3-foot diameter corrugated metal pipe. The downstream end of the pipe is anchored in a wall of flat stones.

The Cyclone Ditch below the headgate structure is about 7 feet wide at the bottom, flaring out to a very wide top. Within one-half mile, the canal reaches its standard cross section of about 4 feet wide at the bottom and 2 feet deep. In actuality, the historic cross section of the ditch no longer exists; the water has established its own cross section within a deeper and wider channel.

The Cyclone Ditch is five miles long. Water is taken from Rapid Creek at an elevation of about 3120 feet. The first 1½ miles pass through residential subdivisions and the Elk's Golf Course. From the diversion canal, the ditch heads east to the line between Sections 8 and 9, T1N, R8E, where it turns in a southeasterly direction through Sections 8, 16, 21, and 26. The canal terminates shortly after it enters Section 25 at an elevation between 3060 and 3080 feet. A wasteway returns excess water to Dry Creek in Section 36.

IV. FUTURE OF THE PROPERTY

The United States Department of Agriculture Water Quality Hydrologic Unit Area, Lower Rapid Creek Project, in Pennington County, South Dakota, was approved for funding by the Secretary of Agriculture in December of 1990. As part of this project, plans have been prepared to modify the Cyclone Ditch to control seepage.

See HAER No. SD-5 for a full description of the undertaking.

V. ENDNOTES

1. Cyclone Ditch Company, Records, "Articles of Incorporation," 24 June 1890.
2. Cyclone Ditch Company, Records, "Application for Appointment of Trustees of the Cyclone Ditch Company Dissolved and for Authority to Transfer Rights, Property, Etc.," 27 April 1911.
3. South Dakota Secretary of State, "Articles of Incorporation of the Cyclone Ditch Company," filed 27 April 1911, File No. DB-12,342.
4. South Dakota Secretary of State, "Application of the Cyclone Ditch Company for an Extension of Its Corporation Charter," filed 3 March 1931, File No. DB-12,342.
5. Cyclone Ditch Company, Records, "By-laws," 29 April 1911.
6. Cyclone Ditch Company, Minute Book, 27 April 1934.
7. Ibid., 16 May 1934.
8. Cyclone Ditch Company, Records, Denu and Philip, Attorneys, Letter to the Cyclone Ditch Company, 16 May 1934.
9. Cyclone Ditch Company, Minute Book, 26 May 1934.
10. Ibid., 18 March 1935.
11. U.S. Department of the Interior, Bureau of Reclamation, "Report on Rapid Valley Irrigation Project South Dakota," November 1937, 40. Copy in Library, Bureau of Reclamation, Newell, South Dakota.
12. U.S. Department of the Interior, Bureau of Reclamation, "Rapid Valley Water Management Study Appendix," Appendix J, July 1990. Copy in Soil Conservation Service office, Rapid City, South Dakota.

VII. SELECTED BIBLIOGRAPHIC CITATIONS

Cyclone Ditch Company. Records. "Application for Appointment of Trustees of the Cyclone Ditch Company Dissolved and for Authority to Transfer Rights, Property, Etc." 27 April 1911.

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